Features

Freq: 4～14GHz

Insertion Loss: 0.3dB

Chip Size: 1mm×1mm×0.1mm

General Description

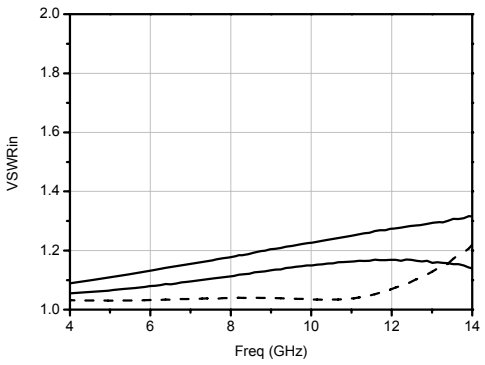
The HG126Y-A is a 2-bit GaAs pHEMT phase modulation chip which is rated from 4 to 14GHz. The chip features extremely low insertion loss of 0.3 dB across all phase states. The input/output VSWR is 1.2/1.2.

Electrical Specifications(T_A=25 ℃)

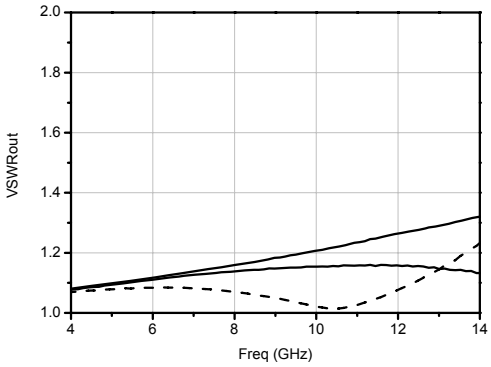
Parameter	symbol	Min.	Typ.	Max.
Frequency Range(GHz)	*f*	4～14		
Input VSWR	VSWRin	-	1.2	-
Output VSWR	VSWRout	-	1.2	-
Insertion Loss(dB)	IL	-	0.3	-
Phase difference (°)(10GHz)	$\Delta\Phi_1$	-	30	-
	$\Delta\Phi_2$	-	-30	-

Notes: The reference path is IN-OUT, $\Delta\Phi_1$ is the phase difference between IN1-OUT1 and reference path. $\Delta\Phi_2$ is the phase difference between IN2-OUT2 and reference path.

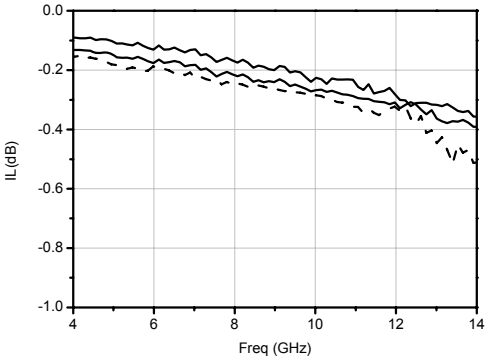
Input VSWR



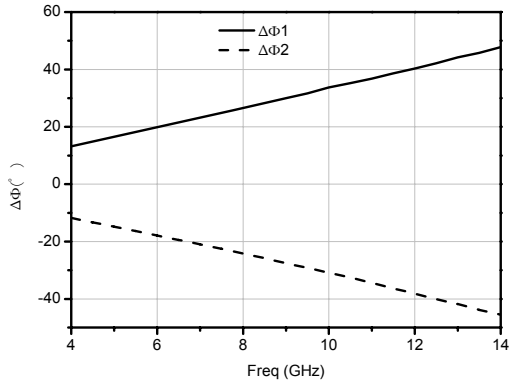
Output VSWR



Insertion Loss

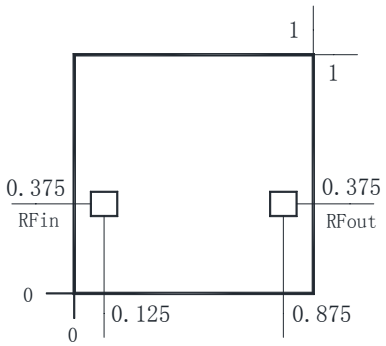


Fixed phase modulation unit



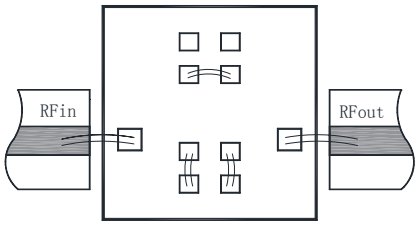
Freq(GHz)	4	6	8	10	12	14
φ_1(°)	13	19	26	33	40	47
φ_2(°)	-11	-17	-24	-30	-38	-15

Outline Drawing (mm)

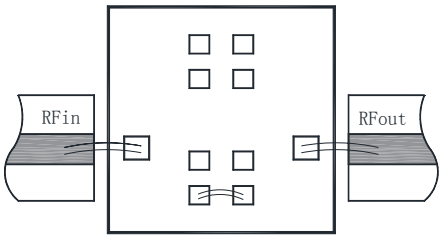


Assembly Diagram

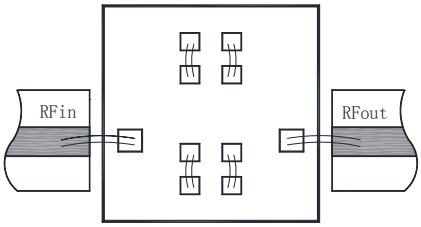
Ref. State



Leading 30° State



Delay 30° State



Absolute Maximum Ratings

RF Input Power	+27dBm
Operating Temperature	-55℃～125℃
Storage Temperature	-65℃～150℃

Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300℃, and no more than 30 sec.), and should make it fully grounded.
4. The chip microwave port and substrate gap is not exceeding 0.05mm, with Φ25μm double gold wire bonding, suggested length of gold wire 250～400μm.
5. Chip microwave port without DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.